

REMARKS

In the Office Action, pending claims 23-28, and 32 were allowed and pending claims 1-5, 9-22, and 32 were rejected. By way of this response, claims 1, 30, and 31 have been amended. After these amendments are entered, claims 1-5, 9-28, and 30-32 will remain pending. In view of the following remarks, reconsideration and allowance of all pending claims are requested.

Allowable Subject Matter

Applicants appreciate the Examiner's recognition of allowable subject matter in claims 23-28, and 32. Furthermore, applicants believe that in light of the arguments and amendments discussed in this response, all of the remaining claims are allowable as well.

Rejections Under 35 U.S.C. § 112

The Examiner rejected claims 1-5, 9-22, and 30 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner stated:

The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention.[†] The claims are drawn to a catalyst substantially free of organoaluminum $\text{Al}(\text{x}^5)_n(\text{X}^6)_{3-n}$. There is no disclosure in the specification that supports this notion. In fact, on page 5, lines 10-15, the inventors indicate that use of organoaluminum compounds are a viable feature of this invention.

[†] *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), *aff'd* *mem.*, 723 F.2d 453 (Fed. Cir. 1984). Any claims containing a

negative limitation which does not have basis in the original disclosure are rejected under 35 U.S.C. 112, first paragraph for failing to comply with the written description requirement. See MPEP § 2173.05(j).

Office Action, page 2. Applicants respectfully traverse these rejections.

I. Legal Precedent and Guidelines

Regarding the written description requirement, the initial burden of proof regarding the sufficiency of the written description falls on the Examiner. Accordingly, the Examiner must present evidence or reasons why persons skilled in the art would not recognize a description of the claimed subject matter in the applicant's disclosure. *In re Wertheim*, 191 U.S.P.Q. 90, 96 (C.C.P.A. 1976). The fundamental factual inquiry with regard to the written description requirement is whether the specification conveys with reasonable clarity to those of ordinary skill in the art that, as of the filing date sought, applicant was in possession of the claimed invention. *See, e.g., Vas-Cath, Inc. v. Mahurkar*, 19 U.S.P.Q. 2d 1111, 1117 (Fed. Cir. 1991). Furthermore, "[t]he 'written description' requirement must be applied in the context of the particular invention and the state of the knowledge." *See Capon v. Eshar*, 76 U.S.P.Q.2d 1078, 1085 (Fed. Cir. 2005).

While some older courts were critical of negative limitations, the "current view of the courts is that there is nothing inherently ambiguous or uncertain about a negative limitation." M.P.E.P. § 2173.05(i), p. 2100-211 (Rev. 5, August 2006). Moreover, word-for-word literal support in the specification is not required for negative claim limitations, if the specification conveys that the applicants had possession of the concept at the time

of filing. *See Ex parte Parks*, 30 U.S.P.Q.2d 1234, 1236 (B.P.A.I. 1993). For example, “[i]f *alternative* elements are *positively recited* in a specification they may be explicitly *excluded* in the claims.” M.P.E.P. § 2173.05(i) (emphasis added). Indeed, it has long been held that an applicant is entitled to claim “less than the full scope of his disclosure.” *In re Johnson*, 194 U.S.P.Q. 187, 195 (C.C.P.A. 1971).

II. Deficiencies of the Rejection Under the First Paragraph of 35 U.S.C. § 112

The Examiner rejected claims 1-5, 9-22, and 30 because they expressly exclude organoaluminum compounds of the general formula $\text{Al}(\text{X}^5)_n(\text{X}^6)_{3-n}$. *See* Office Action, page 2. Apparently, the Examiner contended that there must be word-for-word literal support in the written description for a negative limitation in a claim. *See* Office Action, page 2 (citing page 5, lines 10-15 of the present specification). In other words, the Examiner is apparently contending that the specification must *explicitly* list items that may be excluded. However, as the relevant law clearly indicates, word-for-word literal support in the description for a negative claim limitation is not required. *See, e.g.*, M.P.E.P. § 2173.05(i) (citing *Ex parte Parks*, 30 U.S.P.Q.2d 1234, 1236 (Bd. Pat. App. & Inter. 1993)). Indeed, as discussed above in the legal precedent section, “[i]f *alternative* elements are *positively recited* in a specification they may be explicitly excluded in the claims.” M.P.E.P. § 2173.05(i).

Applicants respectfully note that the Examiner’s reliance on *Ex Parte Grasselli* is misplaced. *See* Office Action, page 2. In *Ex parte Grasselli*, unlike the present case, no support existed in the written description for amendments to the claims that added

negative limitations. The applicant (Grasselli) excluded elements that were not mentioned in the written description, as filed. *See Ex parte Grasselli*, 231 U.S.P.Q. at 393-94. For example, Grasselli expressly excluded uranium from the claims but there was no mention (positive or negative) of uranium or related components in the specification. *See id.* For this reason the board upheld a rejection under Section 112, explaining that the amendment to exclude uranium introduced a new concept. *See id.*

In contrast, in the present case the specification mentions organoaluminum compounds as an optional component in the catalyst composition, and therefore, it is entirely appropriate that Applicant amend the present claims to exclude organoaluminum cocatalysts. Applicants respectfully note that *In re Johnson* is more applicable to the present case. In *In re Johnson*, the patent application specification at issue disclosed over fifty alternate choices that could be used for the precursor compounds. *See In re Johnson*, 194 U.S.P.Q. at 195. The applicants specifically excluded two of these choices from the patent protection sought. *See id.* at 191. The court held that the applicants were entitled to limit the claims to those disclosed alternatives not covered by the prior art. *See id.* at 196 (“It is for the inventor to decide what *bounds* of protection he will seek.”) (emphasis in original).

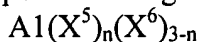
The Specification Lists Organoaluminum Compounds as Optional Cocatalysts.

Here, as the Examiner has noted (*see* Office Action, p. 2), the present written description expressly lists organoaluminum compounds as an optional component that may be included in the formulations of the claimed process:

In another aspect, the catalyst composition further comprises an *optional* organoaluminum cocatalyst, selected from a compound with the following formula: $\text{Al}(\text{X}^5)_n(\text{X}^6)_{3-n}$, wherein (X^5) is a hydrocarbyl having from 1 to about 20 carbon atoms; wherein (X^6) is a halide, hydride, or alkoxide; and wherein n is a number from 1 to 3 inclusive.

Specification, page 5, lines 10-15 (emphasis added); *see also id.* at page 27, line 31- page 29, line 16 (section entitled: “*The Optional Organoaluminum Cocatalyst*”). Thus, the claim element:

wherein the catalyst composition is substantially free of an organoaluminum compound having the formula:



wherein (X^5) is a hydrocarbyl having from 1 to about 20 carbon atoms;

wherein (X^6) is a halide, hydride, or alkoxide; and
wherein n is a number from 1 to 3 inclusive

recited in independent claims 1 and 30 is plainly a valid exclusionary proviso that finds full support in the specification. As such, Applicants respectfully assert that independent claims 1 and 30 clearly comply with 35 U.S.C. § 112. Accordingly, Applicants respectfully request that the Examiner withdraw the rejections under 35 U.S.C. 112, and allow independent claims 1 and 30, as well as claims 2-5 and 9-22 which depend from claim 1.

Rejections Under 35 U.S.C. § 102(b)

The Examiner rejected claims 1-4, 30 and 31 under 35 U.S.C. 102(b) as being anticipated by Hawley et al. (U.S. Patent No. 6,667,274, hereinafter “Hawley”). The Examiner also rejected claims 1, 2, 4, 18-22, 30, and 31 as being anticipated by McDaniel et al. (U.S. Patent No. 6,376,415 and 6,395,666, hereinafter “McDaniel ‘415” and “McDaniel ‘666,” respectively). Furthermore, in a separate rejection, the Examiner rejected claims 1-4, 20-22, 30, and 31 as also being anticipated by Hawley.

I. Legal Precedent and Guidelines

Anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under Section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). To maintain a proper rejection under Section 102, a single reference must teach each and every element or step of the rejected claim. *Atlas Powder v. E.I. du Pont*, 750 F.2d 1569 (Fed. Cir. 1984). Thus, if the claims recite even one element not found in the cited reference, the reference does not anticipate the claimed invention.

II. Deficiencies of the Rejections

As a preliminary matter, Applicants note that Hawley is an improper reference under 35 U.S.C. § 102(b), which states that an Applicant is entitled to a patent unless “the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States.” Hawley issued as a patent on December 23, 2003. The current application was filed on November 21, 2003, which was prior to the issue date for Hawley. Applicants assume that the Examiner intended this rejection to be under 35 U.S.C. § 102(e), which states an Applicant is entitled to a patent unless “the invention was described in — (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent.”

A. The Cited Catalyst Composition of Hawley Does Not Produce a Polyolefin.

In the first rejection based on Hawley, the Examiner rejected claims 1-4, 30 and 31, stating that “examples 51 and 52 disclose a catalyst substantially free of organoaluminum comprising $\text{Me}_2\text{Si}(\text{Ind})_2\text{ZrCl}_2$ / $\text{Me}_2\text{Si}(\text{Me-Ind})_2\text{ZrCl}_2$ and chlorided, zinc-containing alumina.” Office Action, p.3. Applicants respectfully note that the cited composition in Hawley did not produce any polymer and was included in the examples to demonstrate that “no polymer results if an organoaluminum compound is not present in the reactor.” Hawley, Col. 24, ll. 22-26. Furthermore, Hawley noted that after attempting

polymerizations in the absence of an organoaluminum compound “only catalyst residues were recovered.” *Id.*, col. 24, ll. 41-42.

In contrast to the inactive catalyst shown in Examples 51 and 52 of Hawley, independent claims 1, 30, and 31 of the present application recite “wherein the catalyst composition will produce a polyolefin when added to an olefin.” This element is supported by the specification, which specifically states that “it is not necessary for the catalyst composition to include a cocatalyst.” Specification, page 19, lines 18-19. Further support is provided by Table 1, in which all of the runs shown are carried out in the absence of cocatalyst and all actively produce polymer.

For the reasons discussed above, Applicants respectfully assert that Hawley does not disclose all of the elements of independent claims 1, 30, and 31 and cannot anticipate these claims. Accordingly, Applicants respectfully request that the Examiner withdraw the first objection based on Hawley, and allow independent claims 1, 30 and 31, as well as claims 2-4 depending from claim 1.

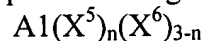
B. The Negative Limitation is Valid Under 35 U.S.C. § 112, First Paragraph

The Examiner rejected claims 1, 2, 4, 18-22, 30, and 31 as anticipated by McDaniels ‘415 and McDaniels ‘666, stating that the rejections were “for the same reasons set forth in previous office actions. Rejections remain in force *until the rejection of claims under 35 U.S.C. 112, 1st paragraph has been overcome.*” See *id.* at page 3 (emphasis added). The Examiner also made a second rejection based on Hawley, of

claims 1-4, 20-22, 30, and 31, stating that the rejection was “for the same reasons set forth in previous office actions. Rejections remain in force *until the rejection of claims under 35 U.S.C. 112, 1st paragraph has been overcome.*” *Id.* at p. 3 (emphasis added).

As previously discussed, all of the references cited, McDaniels ‘415, McDaniels ‘666, and Hawley, describe organoaluminum compounds as necessary cocatalysts for the polymerization of polyolefins. *See* Amendment Pursuant to C.F.R. § 1.116 filed in response to the Office Action of March 24, 2006, pages 25-26. However, in contrast to the cited references, the exclusionary proviso in claims 1 and 30 of the present application specifically claims catalyst compositions that do not have an organoaluminum cocatalyst, reciting:

wherein the catalyst composition is substantially free of an organoaluminum compound having the formula:



wherein (X^5) is a hydrocarbyl having from 1 to about 20 carbon atoms;

wherein (X^6) is a halide, hydride, or alkoxide; and
wherein n is a number from 1 to 3 inclusive

For the reasons discussed above, this exclusionary proviso clearly complies with the written description requirement of 35 U.S.C. § 112. As noted by the Examiner, if this exclusionary proviso is legitimate, the rejections of independent claims 1 and 30 under 35 U.S.C. § 102(b) are obviated. *See* Office Action, p. 3. Thus, Applicants respectfully assert that independent claims 1 and 30 of the present application are allowable over the cited references. Accordingly, Applicants respectfully request the Examiner withdraw the

rejections under 35 U.S.C. § 102, and allow independent claims 1 and 30, and claims 2-4, and 18-22, depending from claim 1.

With respect to claim 31, it should be noted that this independent claim was not rejected by the Examiner under 35 U.S.C. § 112, paragraph one. Furthermore, claim 31 was never amended to contain the negative limitation excluding organoaluminum species, as recited in both claims 1 and 30. Instead, claim 31 is a claim to a process for polymerizing olefins using the catalyst composition from claim 23. In a previous office action, the Examiner indicated that claim 23 was allowable over the cited references, stating that

Claims 23-28 are allowed over the references cited to date. The claims are drawn to catalyst compositions consisting essentially of metallocene and solid oxide chemically treated with electron withdrawing anion. Applicants have discovered that solid oxide chemically treated with electron withdrawing anion is sufficiently acidic to activate the metallocene. As such, these solid oxide supports are termed "activator-support." Use of such a support obviates the need the typical co-activators used in the art. The cited references disclose catalysts comprising metallocene, solid oxide chemically treated with electron withdrawing anion, and organoaluminum coactivator. There is no teaching or suggestion to eliminate the organoaluminum component, and one of ordinary skill in the art would not have found it obvious to make or use a catalyst without said organoaluminum component.

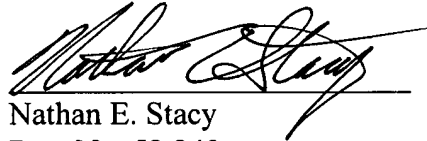
Office Action of March 24, 2006, page 3. As claim 31 uses the identical catalyst composition as found to be allowable for claim 23, Applicants respectfully assert that claim 31 is allowable for the same reasons. Accordingly, applicants respectfully request the Examiner withdraw the rejection under 35 U.S.C. § 102(b), and allow claim 31.

Conclusion

In view of the remarks set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: December 29, 2006

A handwritten signature in black ink, appearing to read "Nathan E. Stacy", written over a horizontal line.

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